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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,435	11/20/2003	Arutiun Papken Ehiasarian	2146/41506/Case 1	9841

279 7590 01/23/2006

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EXAMINER

MCDONALD, RODNEY GLENN

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 01/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/718,435	Applicant(s) EHIASARIAN ET AL.	
	Examiner Rodney G. McDonald	Art Unit 1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawing filed October 18, 2005 is accepted and has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 23 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the specification does not provide for support where the power density of the pulsed discharge during pre-treatment is greater than 200 W cm^{-2} . The specification requires that the power density be greater than 1000 W cm^{-2} . There is no support for the range from 200 and 1000 W cm^{-2} . Also the specification does not provide support for the magnetron discharge occupying at least 10% of the surface area of the cathode.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 4, "the target" lacks antecedent basis. It is suggested to write this as "a target".

Claim 1, line 6, "the power density" lacks antecedent basis. It is suggested to write this as "a power density".

Claim 1, line 6, "the pulsed discharge" lacks antecedent basis. It is suggested to write this as "the pulse, magnetic field assisted cathode sputtering operation".

Claim 4, line 1, "the pulse discharge" lacks antecedent basis. It is suggested to write this as "a pulse duration".

Claim 10, line 2, "a magnetic field-assisted cathode sputtering" is unclear. It is suggested to write this as "the magnetic field-assisted cathode sputtering operation".

Claim 10, line 3 "included" is unclear. It is suggested to write this as "includes".

Claim 17, line 1, "the coatings consist" lack antecedent basis. It is suggested to write this as "the coating consists".

Claim 22, line 2, "the magnetic field strength" lacks antecedent basis. It is suggested to write this as "a magnetic field strength".

Claim 23, line 3, "the horizontal component" lacks antecedent basis. It is suggested to write this as "a horizontal component".

Allowable Subject Matter

Claims 1-22 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 1-22 are allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including wherein the substrate is pre-treated in the vapour of a pulsed, magnetic field-assisted cathode sputtering operation, and during pre-treatment a magnetic field arrangement of a magnetron cathode with a strength of the horizontal component in front of a target of 100 to 1500 Gauss is used for magnetic field-assistance with a power density of the pulsed, magnetic field-assisted cathode sputtering operation during pre-treatment being greater than 1000 W cm^{-2} and wherein after pre-treatment further coating is effected by means of cathode sputtering.

Response to Arguments

Applicant's arguments filed 11-7-05 have been fully considered.

Applicant has addressed the 35 U.S.C. 112 2nd paragraph rejections set forth in the previous office action. The Examiner however has made additional 35 U.S.C. 112 2nd paragraph rejections and a 35 U.S.C. 112 1st paragraph rejection. Applicant's amendment required at least one of the 35 U.S.C. 112 2nd paragraph rejections and required the 35 U.S.C. 112 1st paragraph rejections. However since the Examiner failed in the previous office action to make the additional 35 U.S.C. 112 2nd paragraph rejections based on the claims already present in the case the Examiner will make this action NON-Final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 571-272-1340. The examiner can normally be reached on M- Th with Every other Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rodney G. McDonald
Primary Examiner
Art Unit 1753

RM
January 18, 2005